

CONTRACT CHANGE ORDER MEMORANDUM

DATE: 7/3/2014

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TO: Tony Anziano, Program Manager /			FILE: E.A. 04 - 0120F4	
FROM: Darryl Schram, Senior TE			CO-RTE-PM SF-80-13.2/13.9	
			FED. NO. No	
CCO#: 374	SUPPLEMENT#: 0	Category Code: CKPA	CONTINGENCY BALANCE (incl. this change) \$14,384,960.86	
COST: \$400,000.00 INCREASE <input checked="" type="checkbox"/> DECREASE <input type="checkbox"/>			HEADQUARTERS APPROVAL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
SUPPLEMENTAL FUNDS PROVIDED: \$0.00			IS THIS REQUEST IN ACCORDANCE WITH ENVIRONMENTAL DOCUMENTS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CCO DESCRIPTION: Barrier Caulking			PROJECT DESCRIPTION: CONSTRUCT SELF-ANCHORED SUSPENSION BRIDGE	
Original Contract Time: 2490 Day(s)	Time Adj. This Change: DEF Day(s)	Previously Approved CCO Time Adjustments: 501 Day(s)	Percentage Time Adjusted: (including this change) 20 %	Total # of Unreconciled Deferred Time CCO(s): (including this change) 43

THIS CHANGE ORDER PROVIDES FOR:

Furnish and install caulk on the interior surfaces of the steel barrier rail at the interface with Orthotropic Box Girder (OBG) deck on all four barrier lines. Repair damaged paint.

The OBG deck sections are designed with a 2% cross slope from the North to the South side. Due to the cross-slope, the North side barrier rail (high side) is designed to have the interface of the barrier rail to deck plate caulked to prevent water infiltration into the OBG. With the South side barrier rail on the low side, water naturally drains away from the barrier rail therefore the Contract plans do not require caulking the interface of the South side barrier rail to the deck plate.

The North side barrier rail details were modified by Contract Change Order (CCO) 44 S0 "Barrier Modifications" plan sheet 890S1. This CCO eliminated the PL25 from the interior of the North side barrier rail to simplify fabrication and erection work. Because of this modification, water which enters the barrier rail hollow space is no longer channeled away and out of the barrier rail space as per the original design but now flows against areas that were not designated to be caulked as clarified by RFI 2302. In these areas, water is able to flow between the connection plates of the barrier rail to the OBG deck plate and into the OBG through holes for bolts securing the rail to the deck. This CCO will fully caulk the North side barrier rail to deck plate interface to prevent water from entering the OBG.

Because the South side barrier rail is on the low side of the OBG deck, water naturally flows away from the South side barrier rail. As such the back of the barrier rail was left open at the bottom to allow entrapped moisture a way to exit the hollow space of the barrier rail. Additionally, because water would flow away from the rail, the Contract Plans do not require caulking at the interface of the barrier rail to the deck plate. However, during heavy rain and wind storms, water has blown up and into the barrier rails hollow space. Once inside, water gains access into the OBG by flowing between the interface of the barrier rail to deck plate connection and through holes for bolts securing the rail to the deck. This CCO will fully caulk the South side barrier rail to deck plate interface to prevent water from entering the OBG.

It is important to note that the bolt hole penetrations in the OBG deck plate to secure the barrier rail to the deck were always a source of possible water access into the OBG. Typically gaskets or some other sealing devise would be employed to minimize water leakage between two steel surfaces, however in order for the barrier rail to meet its required safety function a steel on steel connection is necessary. This additional caulking and other measures that may be employed will help to minimize water intrusion while not compromising the safety of the structure.

The Department estimates an additional cost of \$400,000.00 extra work at force account for this change, which can be financed from the contingency fund. A detailed cost analysis is on file.

Consideration of a time adjustment will be deferred until completion of the work specified herein. Determination of a commensurate time adjustment will be made in accordance with Section 10-1.13, "PROGRESS SCHEDULE (CRITICAL PATH METHOD)" and Section 10-1.14, "TIME-RELATED OVERHEAD" of the Special Provisions, as well as Section 8-1.07, "LIQUIDATED DAMAGES", of the Standard Specifications.

This change order has concurrence from William Casey (Supervising TE), Rich Foley (HQ Oversight), Wenyi Long (Bridge Design), Jing Chen (District Design), and Lina Ellis (Maintenance).

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CONCURRED BY:			ESTIMATE OF COST		
Construction Engineer:	William Casey, Sup TE	Date 7/2/14	THIS REQUEST		TOTAL TO DATE
Bridge Engineer:	CT Oversight, Wenyi Long, P.E.	Date 4/25/14	ITEMS	\$0.00	\$0.00
Project Engineer:	District Design, Jing Chen	Date 4/28/14	FORCE ACCOUNT	\$400,000.00	\$400,000.00
Project Manager:		Date	AGREED PRICE	\$0.00	\$0.00
FHWA Rep.:		Date	ADJUSTMENT	\$0.00	\$0.00
Environmental:		Date	TOTAL	\$400,000.00	\$400,000.00
Other (specify):	Struct. Maint, Lina Ellis	Date 4/24/14	FEDERAL PARTICIPATION		
Other (specify):	HQ, Rich Foley	Date	<input type="checkbox"/> PARTICIPATING <input type="checkbox"/> PARTICIPATING IN PART <input checked="" type="checkbox"/> NONE <input type="checkbox"/> NON-PARTICIPATING (MAINTENANCE) <input type="checkbox"/> NON-PARTICIPATING		
District Prior Approval By:		Date	FEDERAL SEGREGATION (if more than one Funding Source or P.I.P. type)		
HQ (Issue Approve) By:		Date	<input type="checkbox"/> CCO FUNDED PER CONTRACT <input type="checkbox"/> CCO FUNDED AS FOLLOWS		
Resident Engineer's Signature:		Date	FEDERAL FUNDING SOURCE PERCENT _____ _____ _____		